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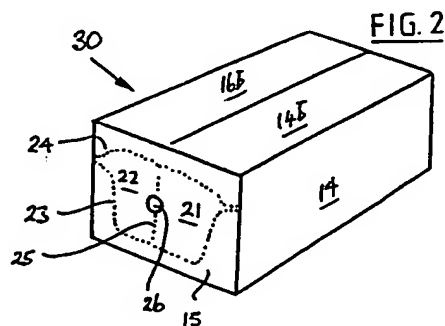
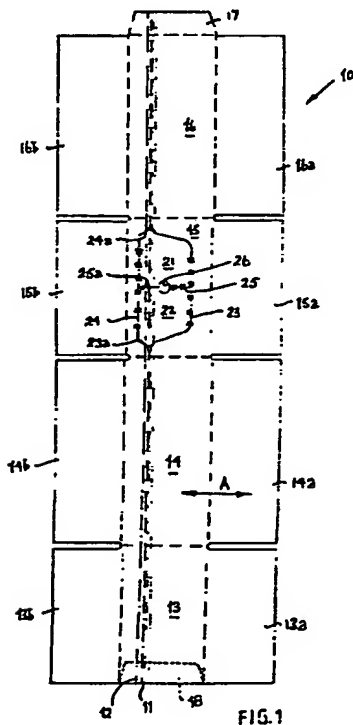
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INT CL⁸ B65D

(54) **Cartons**

(57) A packaging carton (30) can be converted into an open-topped display tray (31) by operating two tear strips (11) which tear the vertical walls (13, 14, 15, 16) of the carton. Each tear strip has a pull tab (21, 22) a part of the boundary of which defines a part of the access opening (26) of the carton.



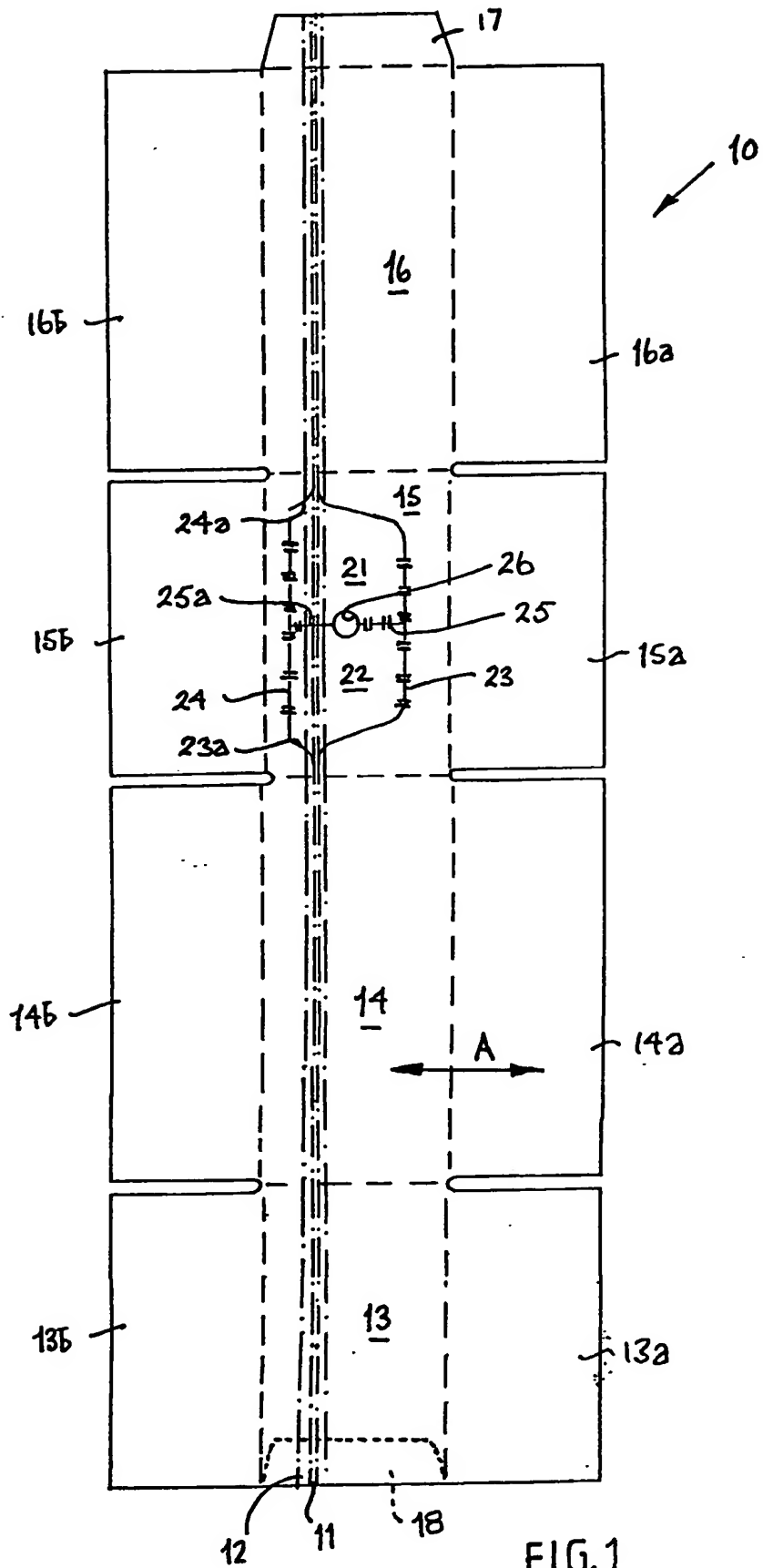


FIG. 1

FIG. 2

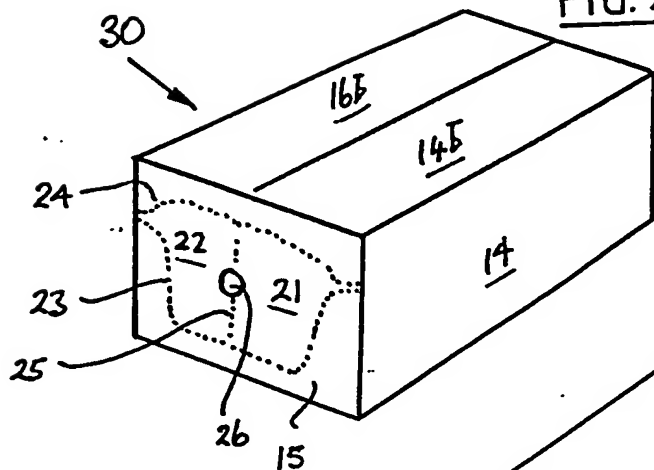


FIG. 3

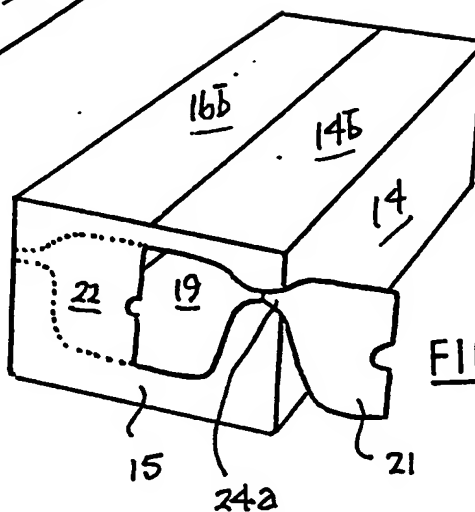


FIG. 4B

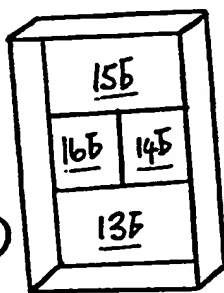
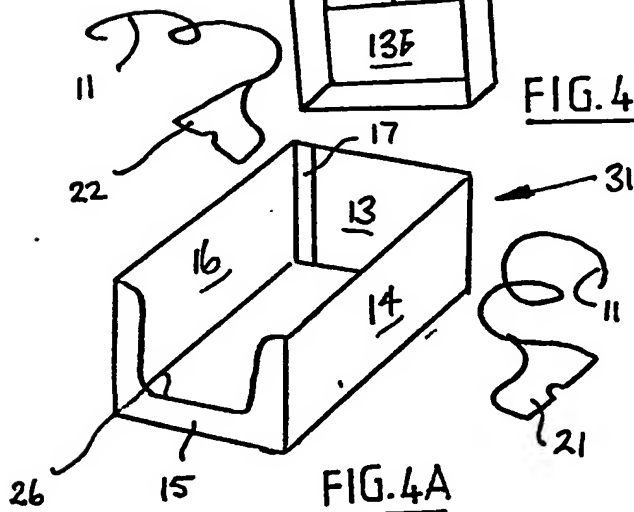
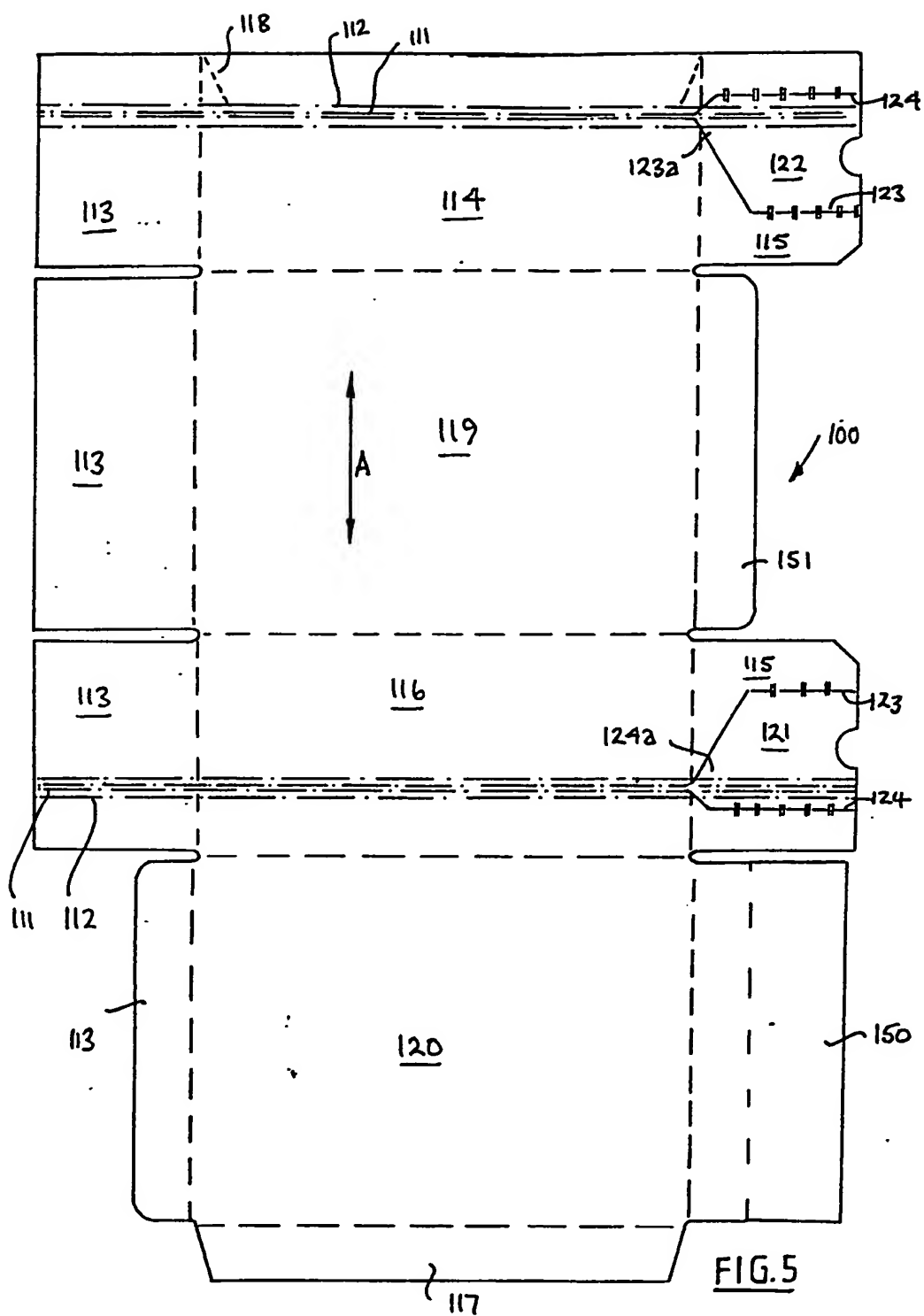


FIG. 4A





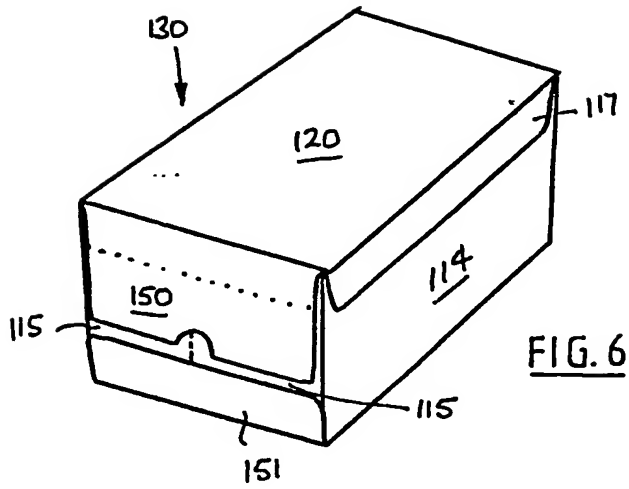


FIG. 6

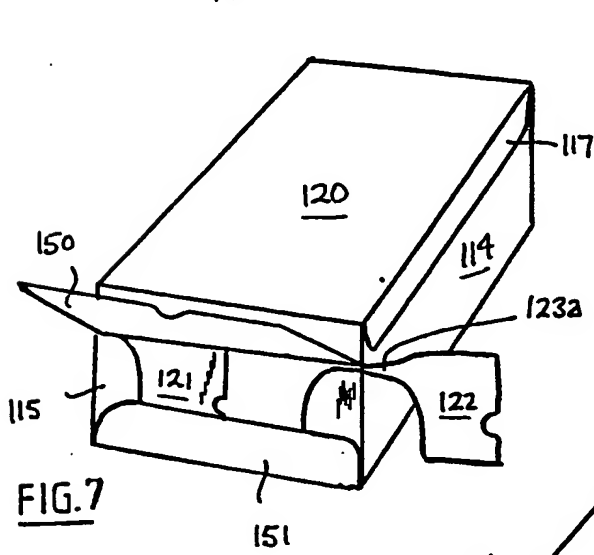


FIG. 7

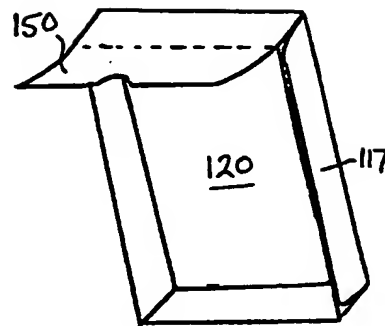


FIG. 8B

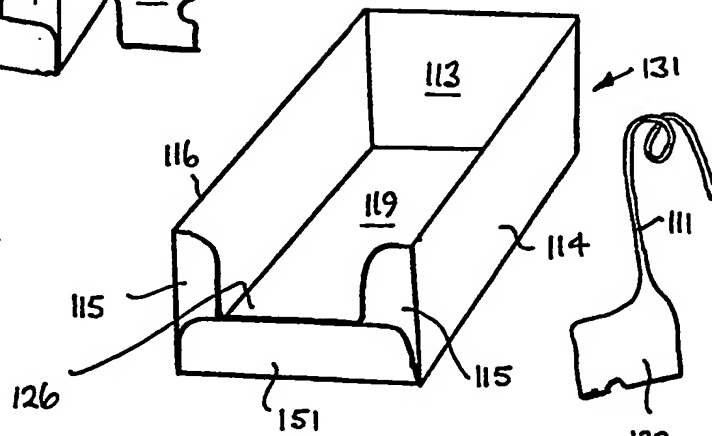


FIG. 8A

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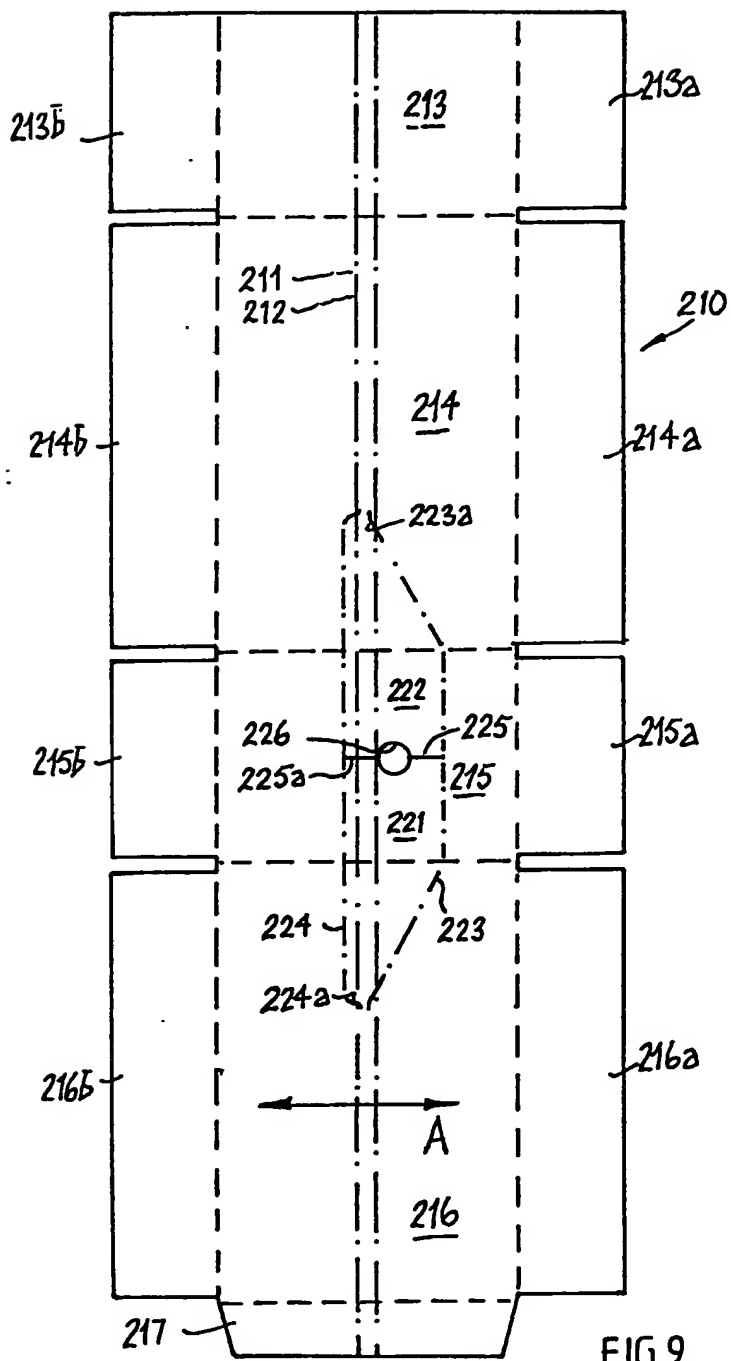


FIG. 9

IMPROVEMENTS IN PACKAGING

This invention relates to an improved packaging carton which can rapidly be converted into an open-topped display tray for use at a self-service outlet and to a blank for
5 producing such a carton.

It is known to provide packaging cartons with tear strips whereby easy opening of the carton is achieved when required. It is also known to display articles in open-topped trays at self-service outlets, the front of the tray
10 having a central region of reduced wall height to define an access opening through which the articles can be seen and through which the hand of a purchaser can pass to remove an article when required.

According to a first aspect of this invention a
15 packaging carton comprises first and second lengths of elongate reinforced material defining first and second tear strips which together surround the carton, each tear strip terminating in a tab, at least a part of the boundary of each tab defining a part of the edge of an access opening
20 to the carton.

Conveniently, part of the boundary of one tab defines the edge of the right-hand half of the access opening and part of the boundary of the other tab defines the edge of the left-hand half of the access opening.

25 Suitably the boundary of each tab and the line of demarcation between the tabs is defined by lines of weakness (e.g. a line of perforations or a slot-score line) possibly by cuts linked to lines of weakness. To facilitate the freeing of each tab by tearing around its defining
30 cuts and/or lines of weakness, it may be desirable to provide a finger access hole on the line of demarcation between the two tabs.

In one convenient method of making a carton according to the invention, a continuous length of reinforced material is applied to a sheet of stiff but foldable material (e.g. double-faced corrugated paperboard) and in cutting a blank from the sheet to form a precursor of the carton, it is ensured that a length of the reinforced material runs from end to end of the blank and is cut into the required first and second lengths by the forming of the line of demarcation.

10 In a further method of making a carton according to the invention two continuous lengths of reinforced material are applied to a sheet of stiff but foldable material in parallel, spaced-apart runs and a blank for the carton is cut from the sheet so that one run forms the reinforced material in the first tear strip and the other run the reinforced material in the second tear strip.

The reinforced material can be a tape, strip(s) or wire(s) incorporated in, or stuck on, the stiff but foldable material. However, a fibrous tape adhesively secured to the stiff but foldable material is preferred. A pair of fibrous tapes of different widths, in which at least the wider can readily be split in its longitudinal direction, is particularly preferred since by drawing the narrower tape through the wider when the tear strips are used to open the top of the carton, a tape-reinforced boundary edge is left all around the thus-formed tray.

According to a further aspect of the invention a blank for producing a carton in accordance with the first aspect, comprises a sheet of stiff but foldable material provided with first and second lengths of reinforced material, one end of each length terminating in a tab whose boundary is defined at least in part by a line of weakness destined to create an edge of an access opening in the completed carton, the first and second lengths together extending from the tabs across each portion of the blank destined to

define an upright wall of the rect d carton.

Pr ferably the first and s cond lengths are contiguous and are divided into separate lengths by a cut defining part of a line of demarcation between the tabs.

5 Double faced corrugated paperboard is a preferred material for the blank and a pair of one narrow and one wider fibrous tapes is preferred for the reinforced material.

The invention will now be further described, by way of
10 example, with reference to the accompanying drawings, in which:

Figure 1 is a plan view of a first blank of sheet material for making a packaging/display carton according to the invention,

15 Figures 2, 3, 4A and 4B show the carton erected from the blank of Figure 1 closed and in two stages of opening,

Figure 5 is a plan view of a second embodiment of blank of sheet material for making a further packaging/display carton according to the invention,

20 Figures 6, 7, 8A and 8B show the carton erected from the blank of Figure 5 closed and in two stages of opening, and

Figure 9 is a plan view of a third blank of sheet material for making a packaging/display carton according to
25 the invention.

Referring to Figure 1, a blank 10 is shown cut from a sheet of double-faced three-ply corrugated paperboard having a pair of fibrous tapes 11 and 12 incorporated therein. The tape 11 is less than one third the width of

the tape 12 and is centrally located, relative to the tape 12, on the outer face of the inner ply whereas the wider tape 12 is longitudinally plittable and is located between the inner face of the outer ply of the board and the corrugated ply. This combination of fibrous tapes provides a tear strip giving clean cut edges to the paperboard when the inner tape 11 is drawn through the wider tape 12 to tear a central region out of the longitudinally-splittable tape 12.

10 In place of a narrower tape 11, two longitudinally-splittable tapes of the same (or comparable) width can be used, a portion (usually a central portion) of the inner tape 11 being pulled away from the residue(s) of the tape 11 when the tear strip is actuated and drawn through the
15 outer tape 12 in just the same way in which the narrower tape 11 acts when tapes of different width are used.

The arrows A indicate the directions of the flutes in the corrugated core of the paperboard, the fact that the flutes run normal to the tapes 11, 12 means that applica-
20 tion of the tapes to the plies of the paperboard can easily be carried out on the corrugator.

The pairs of tapes 11, 12 extend from end to end of the blank 10 and thus pass through four panels 13, 14, 15 and 16 destined to form, respectively, the rear wall, right
25 side wall, front wall and left side wall of the erected carton. A flap 17, attached to panel 16, is secured to area 18 outlined by a dotted line on panel 13 when the carton is erected from the blank.

Base panels 13a, 14a, 15a and 16a and top panels 13b,
30 14b, 15b and 16b, complete the blank and when folded one on the other define a base 19 for the carton and a top 20 for the carton.

The front wall panel 15 is provided with lines of

weakness 23 and 24 which extend up to tongues 23a, 24a in the vicinity of the tap 11. A further line of weakness 25 (which includes a cut 25a through both tapes 11 and 12 is provided between the lines 23 and 24 and serves to demarcate the precursor of tear tabs 21 and 22. The demarcation line 25 includes a finger-access opening 26.

The lines of weakness 23 and 24 shown in Figure 1 are combinations of complete cuts (i.e. in the vicinity of the tongues) and slit/score lines (shown with the short cross-hatchings) to ensure easy removal of the tabs from the front wall when required.

Figure 2 shows a closed carton (30) erected from the blank 10. Prior to closing, the carton 30 is filled with articles and the filled carton can be sent to a retail outlet where self service is available.

To form the carton 30 into an open-topped tray (31) the two tabs 21 and 22 are pulled away from the rest of the front wall panel 15 causing the board material to tear along the lines of weakness 23 and 24 and the demarcation line 25. Figure 3 shows this operation underway and Figures 4A and 4B show it completed. Where the tabs 21 and 22 were located in the front wall panel 15, an access opening 26 is evident in the tray 31, the boundary of each tab defining part of the edge of the access opening 26.

The residues of the tapes 11 and 12 left on the board material after actuation of the tear strips serve as reinforcements for the upper edge of the tray 31 and lower edge of the removed carton top. Such reinforcements reduce the risk of the wall panels 13, 14 and 16 getting torn in use of the tray and also make it unlikely that the torn edges will be able to cut the hand of a person removing contents from the tray 31.

Figures 5 to 8B are so similar to Figures 1 to 4B that

only brief reference to the features of difference is deemed necessary to enable a full understanding of the second embodiment. For convenience the same reference numbers used in Figures 1 to 4B with the addition of 100 have been used in Figures 5 to 8B to designate similar integers.

The blank 100 includes two spaced-apart tape runs 111 and 112, one passing through side wall panel 114 and part of rear wall panel 113 and front wall panel 115 and the other through side wall panel 116 and two other parts of panels 113 and 115. A top panel 120 and a base panel 119 are provided, the top panel 120 being attached to a flap 117 for securing it to the wall panel 114. A double-thickness front wall construction is provided by means of panels 150 and 151 on the top and base panels 120 and 119, respectively.

From Figures 7, 8A and 8B it can be seen that operating the tear strips associated with the tabs 121, 122 converts the carton 130 into an open-topped tray 131 with an access opening 126, whose edges are the boundaries of the removed tear strip tabs 121 and 122.

Figure 9 shows a design of blank which is very similar to that of Figure 1 and the same reference numerals used in Figure 1 have been used in Figure 9 with the addition of 200.

The main feature of difference between blank 10 and blank 210 is the location of the tear strip reinforcement tapes 211 and 212 at an approximate mid-point in the height of the wall panels 213, 214, 215 and 216 and the extension of the pull tabs 221 and 222 into the wall panels 214 and 216. The tapes 211 and 212 are both longitudinally split-tabular fibrous tapes and the narrow tongues 223a and 224a cut through approximately the upper third and the lower third of each tape leaving a coherent central third of the

width of both to form the tear strip that is removed on actuation of the tear strips.

Preferred material for the tapes 11 and 111 is SESAME CR 2399 and for the tapes 12 and 112 is SESAME CR 2336, 5 both made by Sesame Industries Ltd., of Quebec, Canada.

Preferred material for the tapes 211 and 212 is 11mm wide SESAME CR 2473 for exposed tape 211 and SESAME CR 2475 for tape 212 which is located between the inner face of the outer ply and the corrugated ply.

CLAIMS

1. A packaging carton which can be converted into an open-topped display tray comprising first and second lengths of elongate reinforced material defining first and second tear strips which together surround the carton, each
5 tear strip terminating in a tab, at least a part of the boundary of each tab defining a part of the edge of an access opening to the carton.

2. A carton as claimed in claim 1, in which part of
10 the boundary of one tab defines the edge of the right-hand half of the access opening and part of the boundary of the other tab defines the edge of the left-hand half of the access opening.

3. A carton as claimed in claim 1 or 2, in which the
15 boundary of each tab and the line of demarcation between the tabs is defined by lines of weakness.

4. A carton as claimed in claim 3, in which the lines of weakness are lines of perforations.

5. A carton as claimed in claim 3 or claim 4, in
20 which to facilitate the freeing of each tab by tearing around its defining boundary, a finger access hole is provided on a line of demarcation between the two tabs.

6. A carton as claimed in any preceding claim, in which each tear strip after actuation to open the carton
25 leaves a reinforced boundary edge around the open-topped display tray.

7. A packaging carton which can be converted into an open-topped display tray substantially as herein described with reference to and as illustrated in Figures 2, 3 and 4
30 or Figures 6, 7 and 8 of the accompanying drawings.

8. A packaging carton which can be converted into an open-topped display tray substantially as herein described with reference to and as illustrated in Figure 9 of the accompanying drawings.

5 9. A method of making a carton according to any preceding claim, in which a continuous length of reinforced material is applied to a sheet of stiff but foldable material and in cutting a blank from the sheet to form a precursor of the carton, it is ensured that a length of the
10 reinforced material runs from end to end of the blank and is cut into the required first and second lengths by the forming of the line of demarcation.

10. A method of making a carton according to any one of claims 1 to 8, in which two continuous lengths of
15 reinforced material are applied to a sheet of stiff but foldable material in parallel, spaced-apart runs and a blank for the carton is cut from the sheet so that one run forms the reinforced material in the first tear strip and the other run the reinforced material in the second tear
20 strip.

11. A blank for producing a carton in accordance with any one of claims 1 to 8, which blank comprises a sheet of stiff but foldable material provided with first and second lengths of reinforced material, one end of each length
25 terminating in a tab whose boundary is defined at least in part by a line of weakness destined to create an edge of an access opening in the completed carton, the first and second lengths together extending from the tabs across each portion of the blank destined to define an upright wall of
30 the erected carton.

12. A blank as claimed in claim 11, in which the first and second lengths are contiguous and are divided

into separate lengths by a cut defining part of a line of demarcation between the tabs.

13. A blank as claimed in claim 11 or claim 12, in which the stiff but foldable material is double-faced
5 corrugated paperboard having a corrugated ply sandwiched between inner and outer plies.

14. A blank as claimed in any one of claims 11 to 13, in which the reinforced material is a pair of fibrous tapes adhesively secured to the sheet of stiff but foldable
10 material, one tape being split by the other during operation of the tear strips.

15. A blank for a packaging carton which can be converted into an open-topped display tray substantially as herein described with reference to Figure 1 or Figure 5 of
15 the accompanying drawings.

16. A blank for a packaging carton which can be converted into an open-topped display tray substantially as herein described with reference to Figure 9 of the accompanying drawings.

Amendments to the claims have been filed as follows

1. A packaging carton which can be converted into an open-topped display tray comprising first and second lengths of elongate reinforced material defining first and second tear strips which together surround the carton, each tear strip terminating in a tab, at least a part of the boundary of each tab defining a part of the edge of an access opening in a wall panel of the display tray.
2. A carton as claimed in claim 1, in which part of the boundary of one tab defines the edge of the right-hand half of the access opening and part of the boundary of the other tab defines the edge of the left-hand half of the access opening.
3. A carton as claimed in claim 1 or 2, in which the boundary of each tab and the line of demarcation between the tabs is defined by lines of weakness.
4. A carton as claimed in claim 3, in which the lines of weakness are lines of perforations.
5. A carton as claimed in claim 3 or claim 4, in which to facilitate the freeing of each tab by tearing around its defining boundary, a finger access hole is provided on a line of demarcation between the two tabs.
6. A carton as claimed in any preceding claim, in which each tear strip after actuation to open the carton leaves a reinforced boundary edge around the open-topped display tray.
7. A packaging carton which can be converted into an open-topped display tray substantially as herein described with reference to and as illustrated in Figures 2, 3 and 4 or Figures 6, 7 and 8 of the accompanying drawings.

8. A packaging carton which can be converted into an open-topped display tray substantially as herein described with reference to and as illustrated in Figure 9 of the accompanying drawings.

5 9. A method of making a carton according to any preceding claim, in which a continuous length of reinforced material is applied to a sheet of stiff but foldable material and in cutting a blank from the sheet to form a precursor of the carton, it is ensured that a length of the
10 reinforced material runs from end to end of the blank and is cut into the required first and second lengths by the forming of the line of demarcation.

10. A method of making a carton according to any one of claims 1 to 8, in which two continuous lengths of
15 reinforced material are applied to a sheet of stiff but foldable material in parallel, spaced-apart runs and a blank for the carton is cut from the sheet so that one run forms the reinforced material in the first tear strip and the other run the reinforced material in the second tear
20 strip.

11. A blank for producing a carton in accordance with any one of claims 1 to 8, which blank comprises a sheet of stiff but foldable material provided with first and second lengths of reinforced material, one end of each length
25 terminating in a tab whose boundary is defined at least in part by a line of weakness destined to create an edge of an access opening in the completed carton, the first and second lengths together extending from the tabs across each portion of the blank destined to define an upright wall of
30 the erected carton.

12. A blank as claimed in claim 11, in which the first and second lengths are contiguous and are divided

into separate lengths by a cut defining part of a line of demarcation between the tabs.

13. A blank as claimed in claim 11 or claim 12, in which the stiff but foldable material is double-faced
5 corrugated paperboard having a corrugated ply sandwiched between inner and outer plies.

14. A blank as claimed in any one of claims 11 to 13, in which the reinforced material is a pair of fibrous tapes adhesively secured to the sheet of stiff but foldable
10 material, one tape being split by the other during operation of the tear strips.

15. A blank for a packaging carton which can be converted into an open-topped display tray substantially as herein described with reference to Figure 1 or Figure 5 of
15 the accompanying drawings.

16. A blank for a packaging carton which can be converted into an open-topped display tray substantially as herein described with reference to Figure 9 of the accompanying drawings.